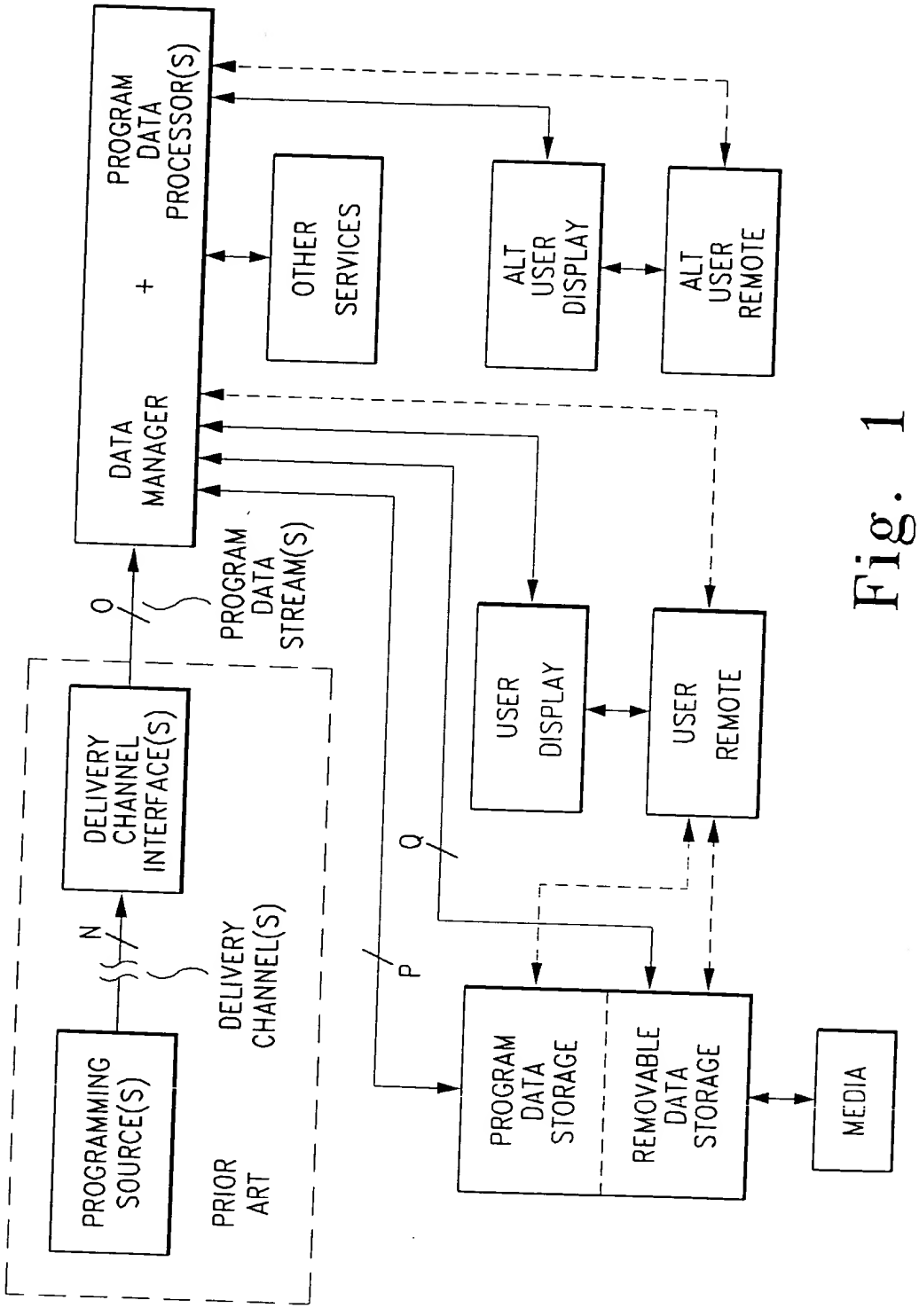
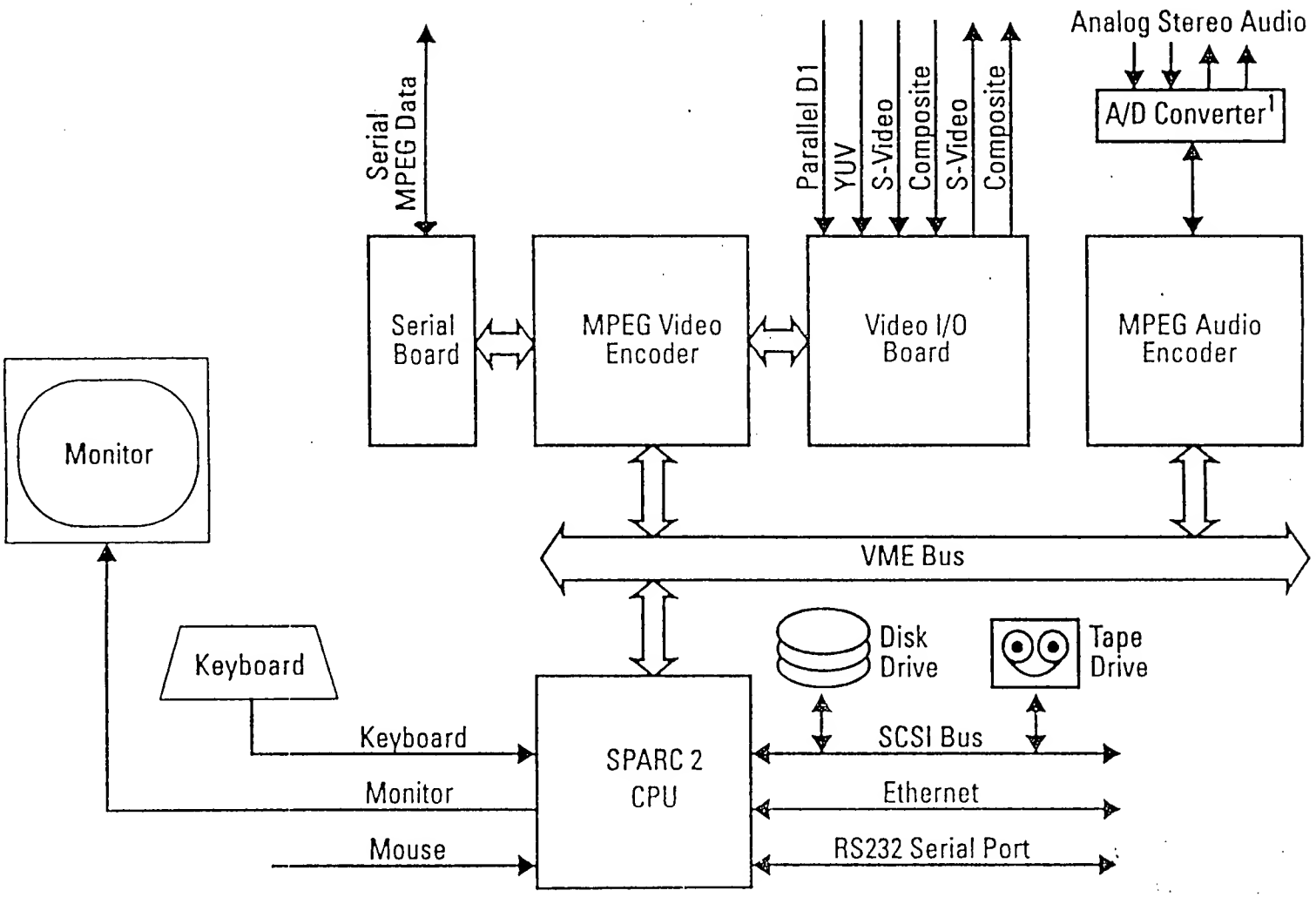


Fig. 1



PRIOR ART

Figure 2 MPEG 2 Encoder Development System, Block Diagram

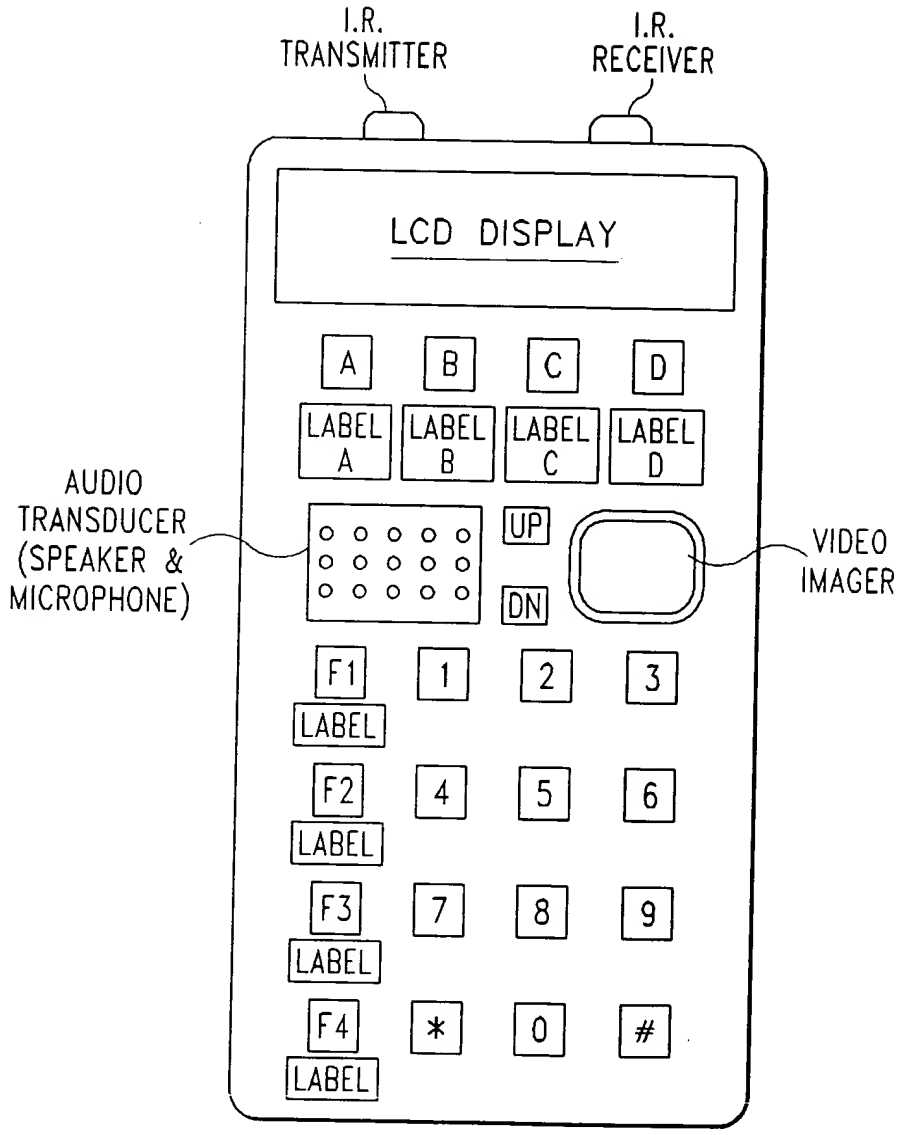

I.R.
TRANSMITTER
I.R.
RECEIVER
LCD DISPLAY
A
B
C
D
LABEL
A
LABEL
B
LABEL
C
LABEL
D
AUDIO
TRANSDUCER
(SPEAKER &
MICROPHONE)
UP
DN
VIDEO
IMAGER
F1
LABEL
1
2
3
F2
LABEL
4
5
6
F3
LABEL
7
8
9
F4
LABEL
*
0
#

Fig. 3

PROGRAM DATA STREAM NUMBER	IDENTIFIER	PROGRAM STORAGE TIME 1	STORAGE TIME 1 PRIORITY	STORE PERIOD	MOST/ LEAST RECENT OVERWRITE	PROGRAM STORAGE TIME 2	STORAGE TIME 2 PRIORITY	STORE PERIOD	MOST/ LEAST RECENT OVERWRITE
1									
2									
3									
4									

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z HOUR DAY WEEK MONTH M–F EXIT

0 1 2 3 4 5 6 7 8 9 * # – : M T W Th F Sa Su AM PM DAILY WEEKLY S–S MOST LEAST

Fig. 4

PROGRAM DATA STREAM NUMBER	IDENTIFIER	PROGRAM STORAGE TIME 1	STORAGE TIME 1 PRIORITY	STORE PERIOD	MOST/ LEAST RECENT OVERWRITE	PROGRAM STORAGE TIME 2	STORAGE TIME 2 PRIORITY	STORE PERIOD	MOST/ LEAST RECENT OVERWRITE
1	SPORTS	6:00 PM 7:00 PM M-F	1	1 WEEK	LEAST	2:00 PM END Sa	2	1 WEEK	
2	HOBBIES								
3	NEWS	6:00 PM 6:30 PM M-F	2	2 DAY	LEAST	ALL	3		LEAST
4	MUSIC								

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z HOUR DAY WEEK MONTH M-F EXIT

0 1 2 3 4 5 6 7 8 9 * # - : M T W Th F Sa Su AM PM DAILY WEEKLY S-S MOST LEAST

Fig. 5

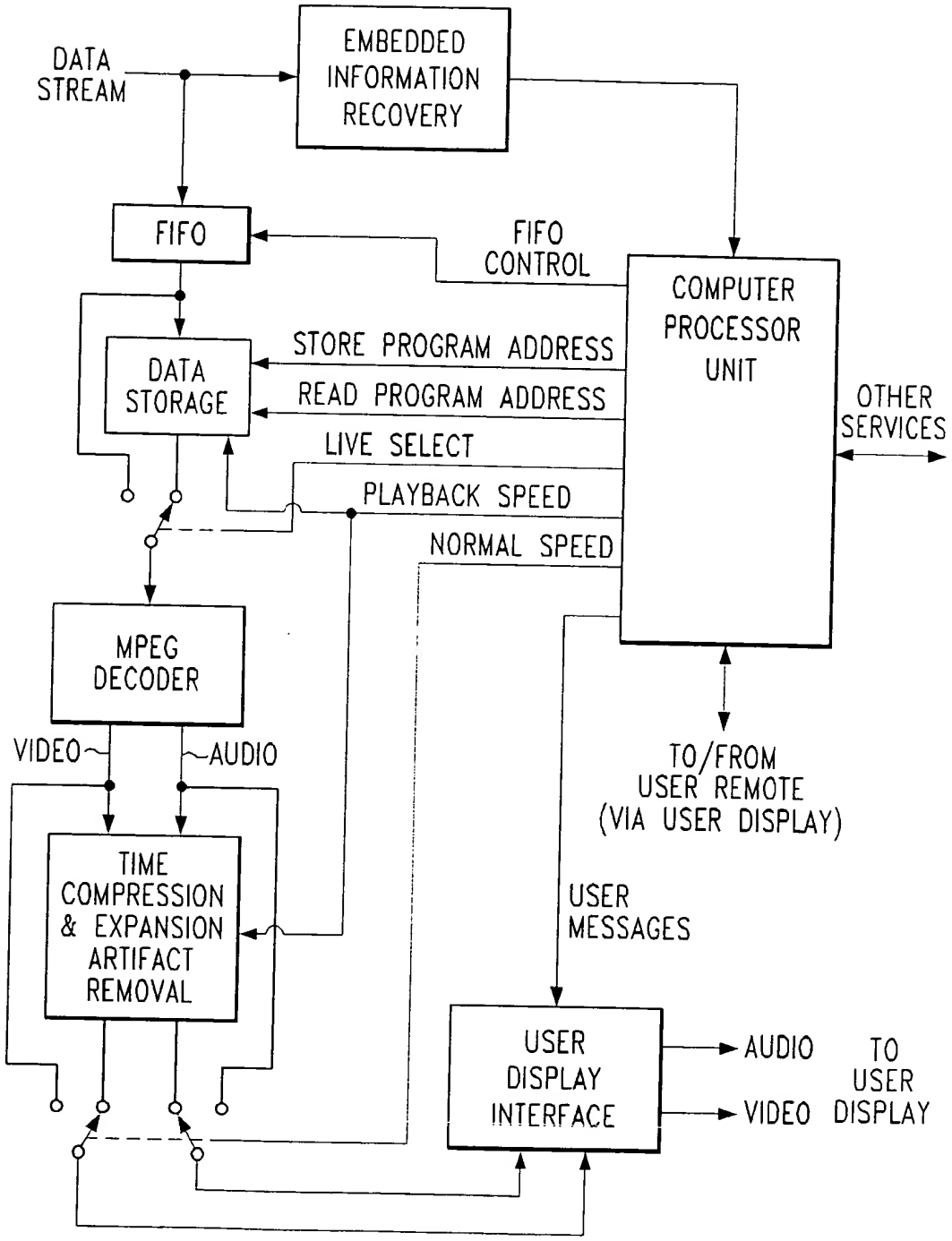

DATA STREAM
EMBEDDED INFORMATION RECOVERY
FIFO
FIFO CONTROL
COMPUTER PROCESSOR UNIT
DATA STORAGE
STORE PROGRAM ADDRESS
READ PROGRAM ADDRESS
LIVE SELECT
PLAYBACK SPEED
NORMAL SPEED
OTHER SERVICES
MPEG DECODER
VIDEO
AUDIO
TO/FROM USER REMOTE (VIA USER DISPLAY)
TIME COMPRESSION & EXPANSION ARTIFACT REMOVAL
USER MESSAGES
USER DISPLAY INTERFACE
AUDIO
VIDEO
TO USER DISPLAY

Fig. 6

FIG. 7

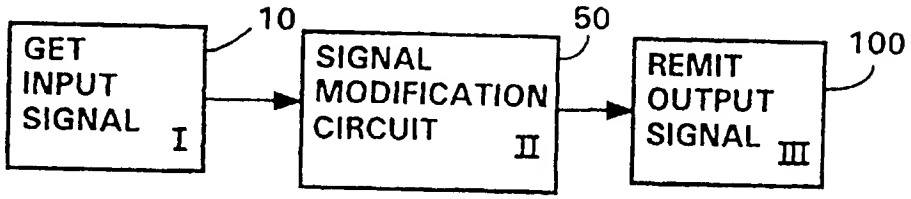

GET INPUT SIGNAL
I
10
SIGNAL MODIFICATION CIRCUIT
II
50
REMIT OUTPUT SIGNAL
III
100

FIG. 8

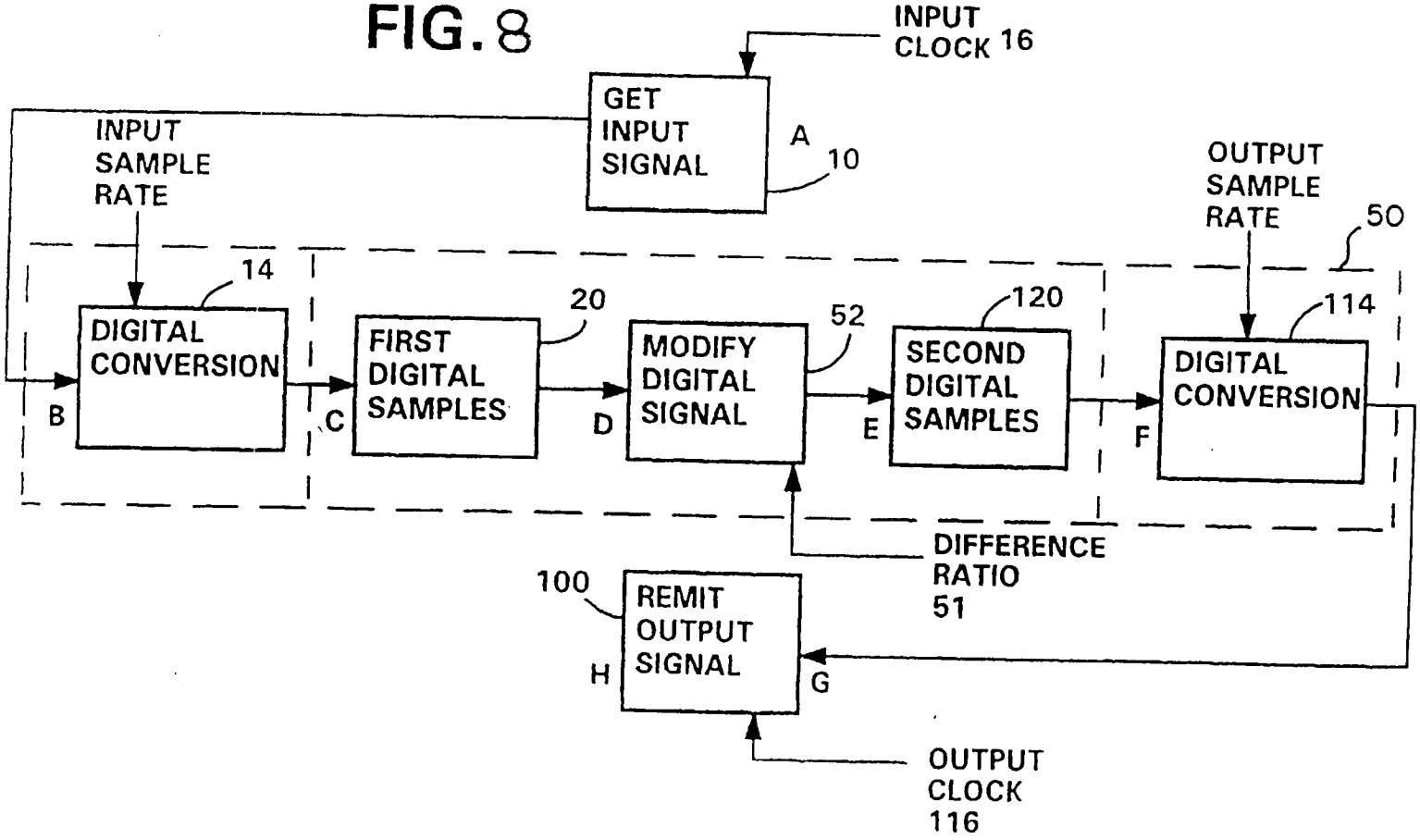

INPUT CLOCK 16
GET INPUT SIGNAL
A
10
INPUT SAMPLE RATE
OUTPUT SAMPLE RATE
50
14
DIGITAL CONVERSION
B
C
20
FIRST DIGITAL SAMPLES
D
52
MODIFY DIGITAL SIGNAL
E
120
SECOND DIGITAL SAMPLES
F
114
DIGITAL CONVERSION
DIFFERENCE RATIO 51
100
REMIT OUTPUT SIGNAL
H
G
OUTPUT CLOCK 116

FIG. 9

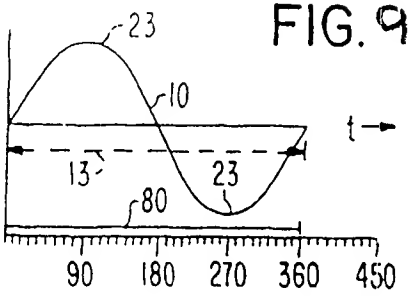


FIG. 10

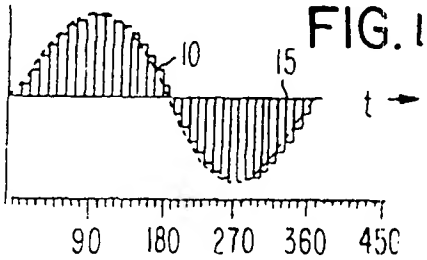


FIG. 11

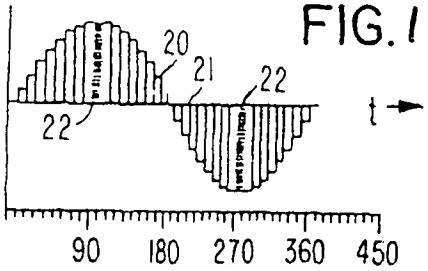


FIG. 12

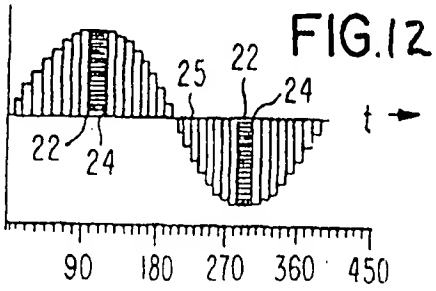


FIG. 13

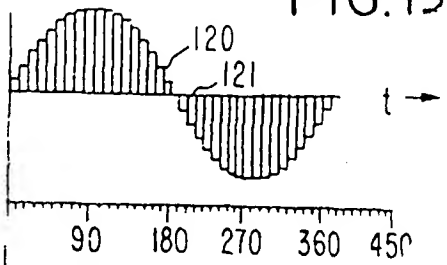


FIG. 14

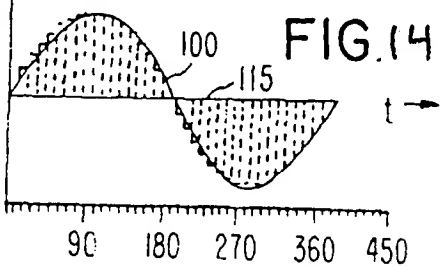


FIG. 15

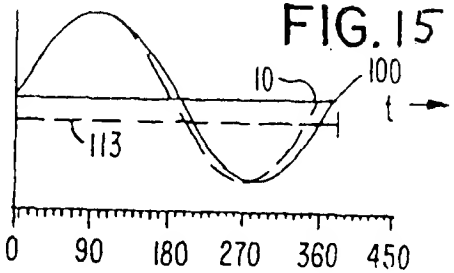


FIG. 16

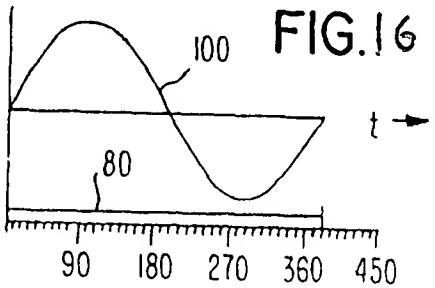


FIG. 17

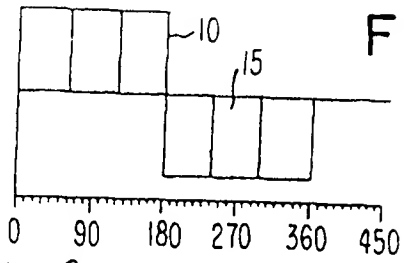


FIG. 18

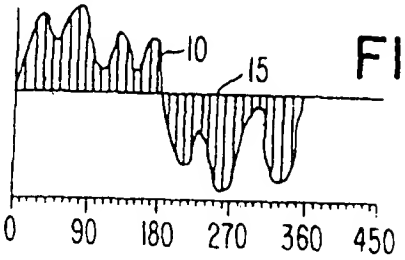


FIG. 19

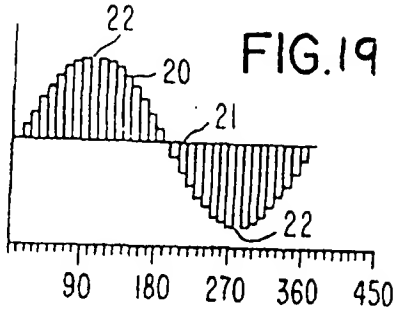


FIG. 20

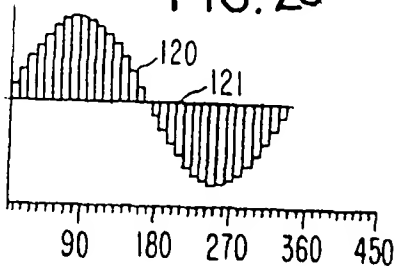


FIG. 21

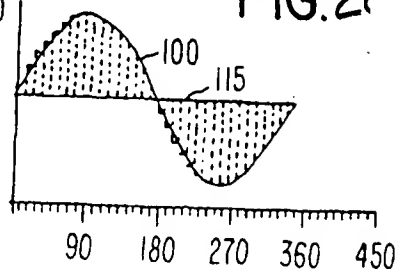


FIG. 22

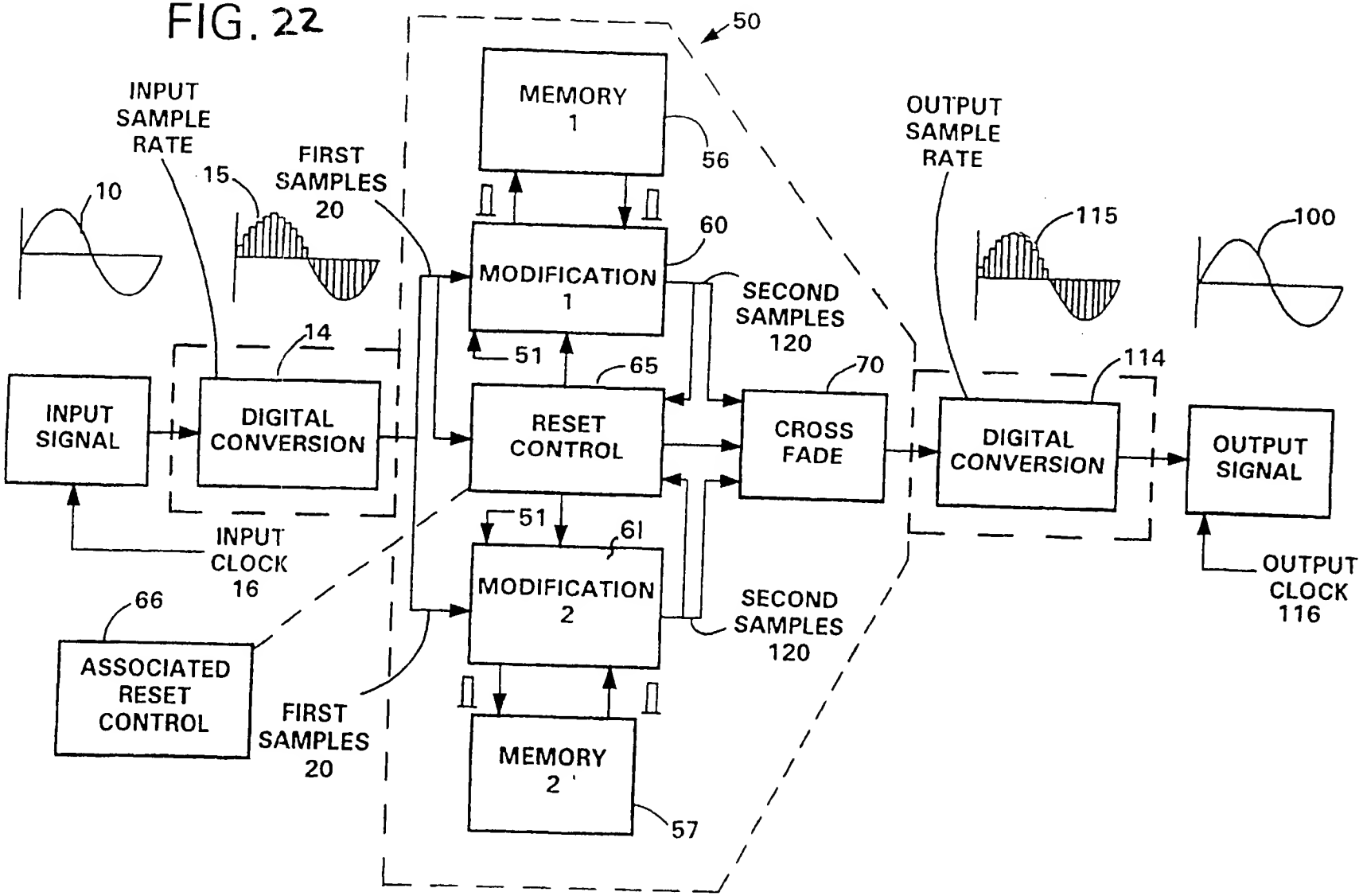

50
MEMORY 1
56
INPUT SAMPLE RATE
FIRST SAMPLES 20
15
10
MODIFICATION 1
60
SECOND SAMPLES 120
14
51
65
70
INPUT SIGNAL
DIGITAL CONVERSION
RESET CONTROL
CROSS FADE
OUTPUT SAMPLE RATE
115
100
114
DIGITAL CONVERSION
OUTPUT SIGNAL
INPUT CLOCK 16
51
61
MODIFICATION 2
SECOND SAMPLES 120
OUTPUT CLOCK 116
66
ASSOCIATED RESET CONTROL
FIRST SAMPLES 20
MEMORY 2
57

FIG. 23

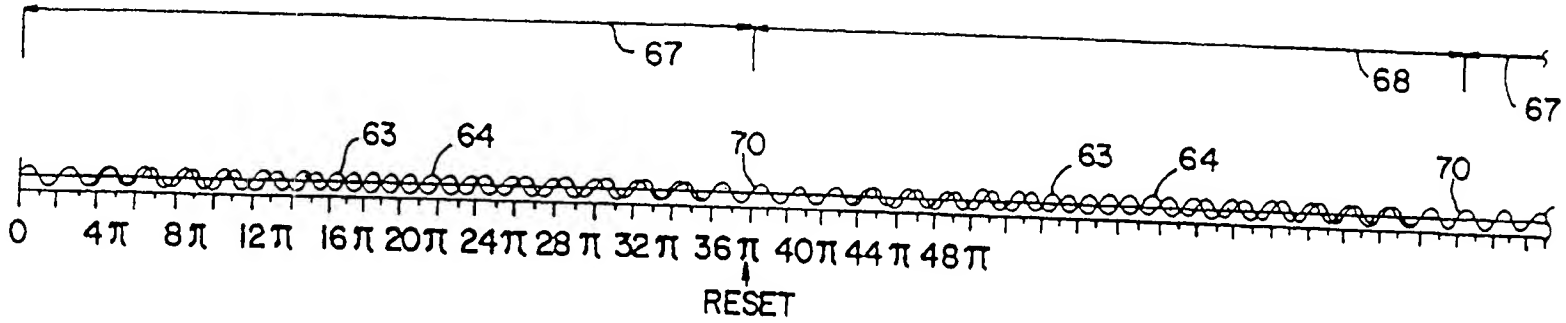


FIG. 24

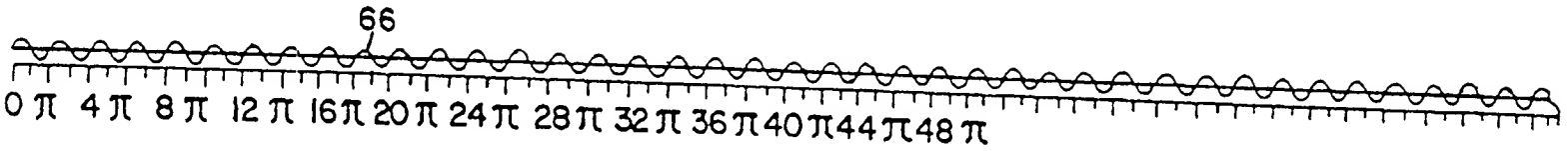
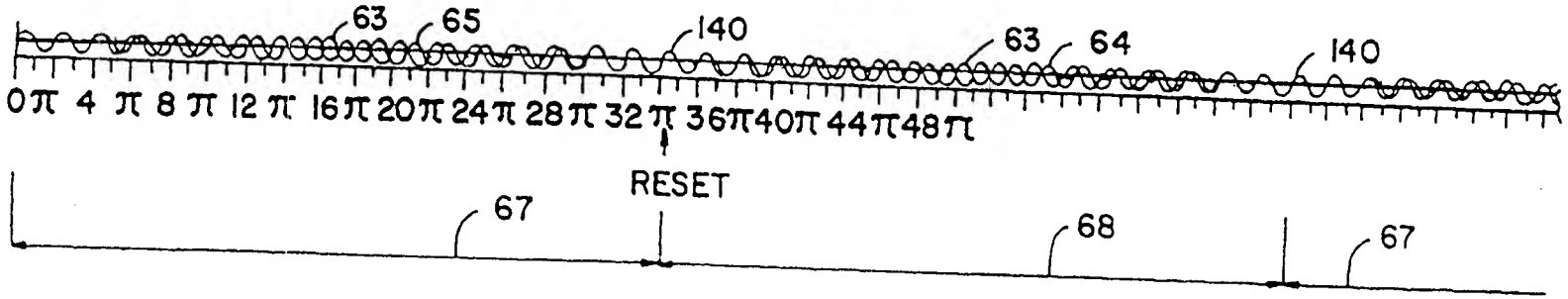


FIG. 25



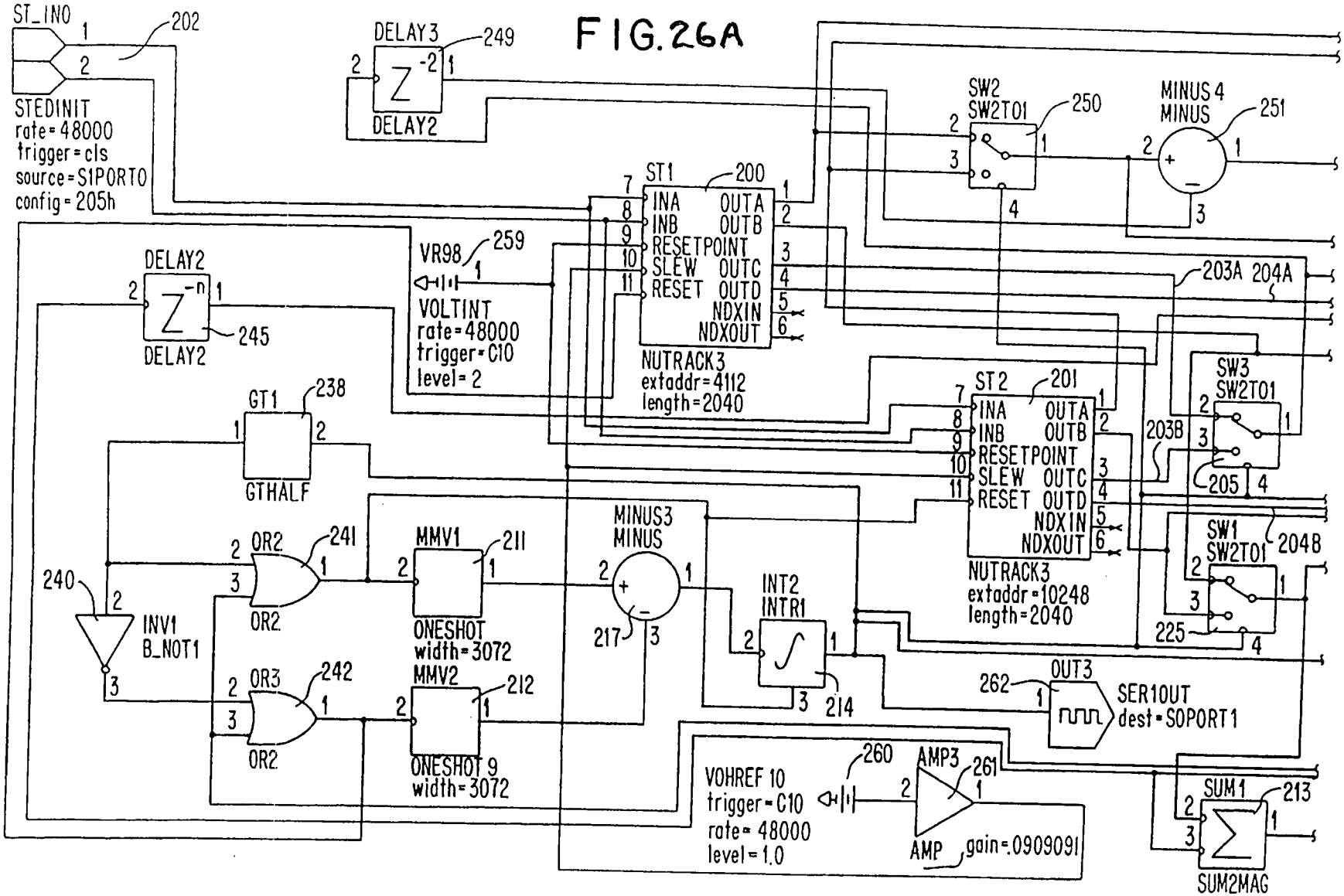

ST_INO
202
STEDINIT
rate=48000
trigger=cls
source=S1PORT0
config=205h
DELAY3
249
DELAY2
SW2
SW2TO1
250
MINUS 4
MINUS
251
ST1
200
INA
INB
RESETPOINT
SLEW
RESET
OUTA
OUTB
OUTC
OUTD
NDXIN
NDXOUT
NUTRACK3
extaddr=4112
length=2040
VR98
259
VOLTINT
rate=48000
trigger=C10
level=2
DELAY2
245
DELAY2
203A
204A
SW3
SW2TO1
ST2
201
203B
205
GT1
238
GTHALF
NUTRACK3
extaddr=10248
length=2040
SW1
SW2TO1
204B
225
MINUS3
MINUS
OR2
241
MMV1
211
240
INV1
B_NOT1
ONESHOT
width=3072
217
INT2
INTR1
214
OUT3
262
SER10UT
dest=S0PORT1
OR3
242
MMV2
212
OR2
ONESHOT 9
width=3072
VOHREF 10
trigger=C10
rate=48000
level=1.0
260
AMP3
261
AMP
gain=.0909091
SUM1
213
SUM2MAG

FIG.26A

FIG. 26B

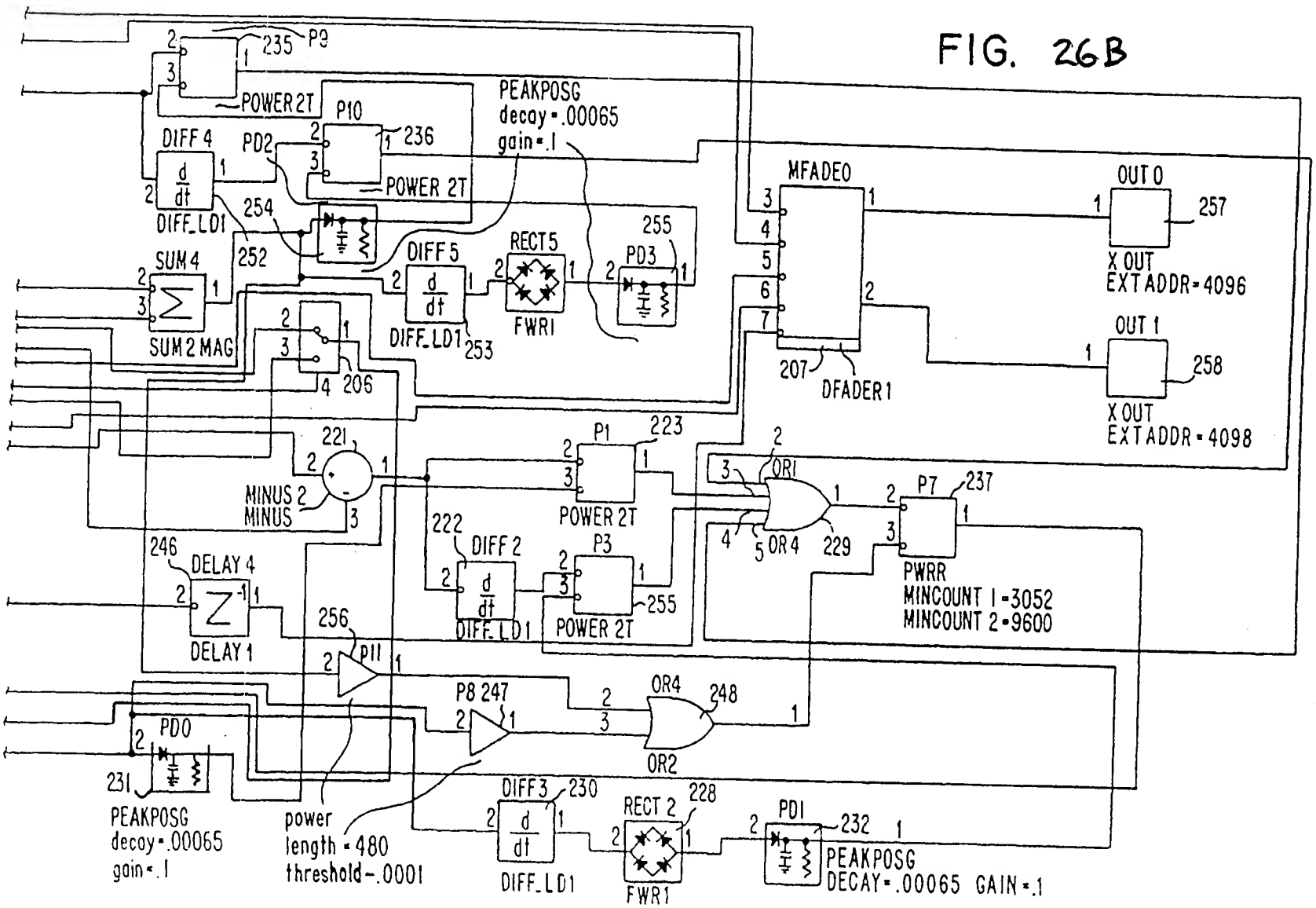

P9
235
POWER 2T
P10
236
POWER 2T
PEAKPOSG
decay = .00065
gain = .1
DIFF 4
PD2
DIFF_LD1
254
252
SUM 4
SUM 2 MAG
DIFF 5
DIFF_LD1
253
RECT 5
FWR1
255
PD3
MFADEO
OUT 0
257
X OUT
EXT ADDR = 4096
OUT 1
258
X OUT
EXT ADDR = 4098
207
DFADER1
206
221
MINUS 2
MINUS
P1
223
POWER 2T
ORI
P7
237
PWRR
MINCOUNT 1 = 3052
MINCOUNT 2 = 9600
OR4
229
222
DIFF 2
DIFF_LD1
P3
255
POWER 2T
246
DELAY 4
DELAY 1
256
PII
P8 247
OR4
248
OR2
PD0
231
PEAKPOSG
decay = .00065
gain = .1
power
length = 480
threshold = .0001
DIFF 3
230
DIFF_LD1
RECT 2
228
FWR1
PDI
232
PEAKPOSG
DECAY = .00065 GAIN = .1

FIG. 27A

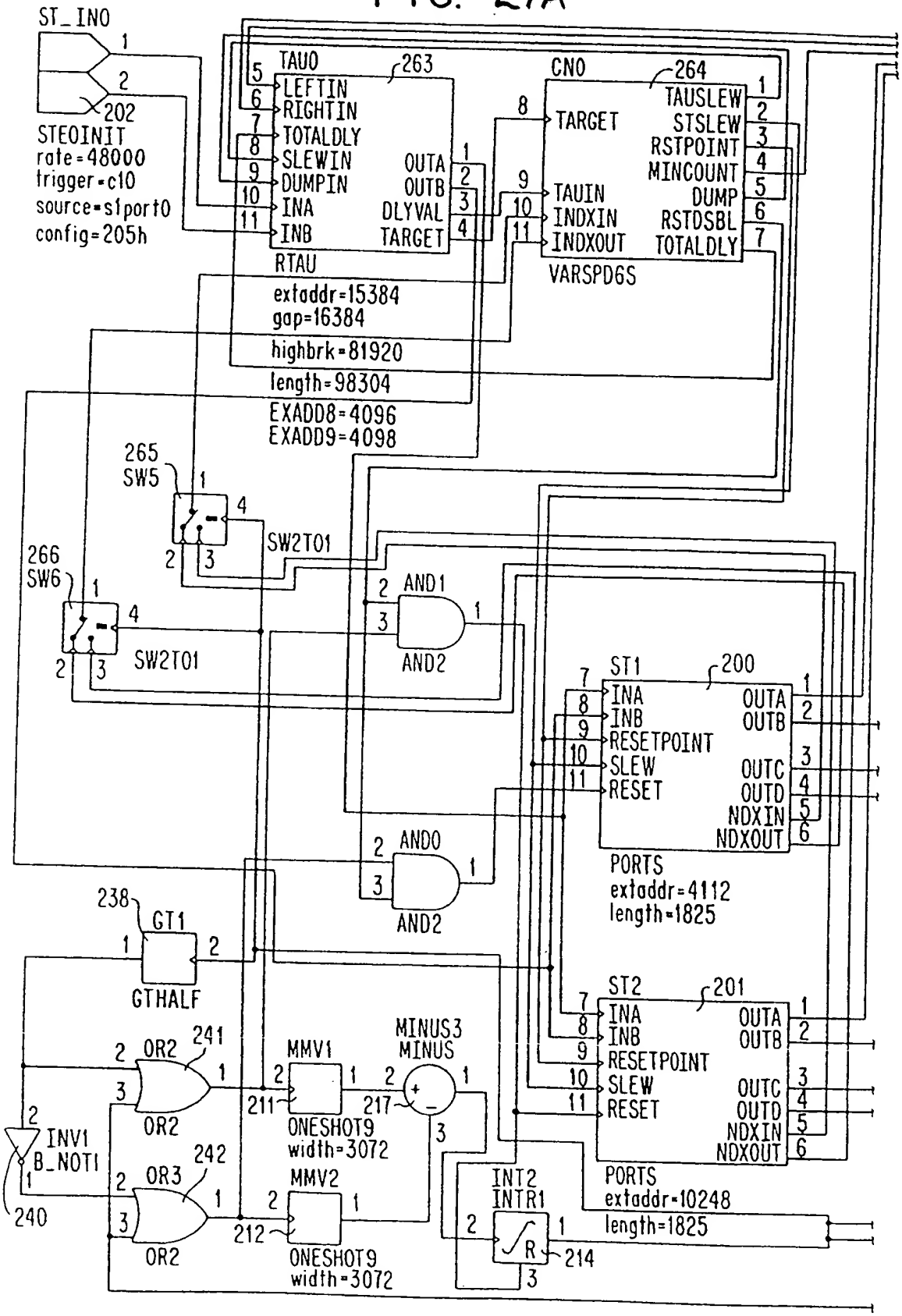

ST_IN0
STEOINIT
rate=48000
trigger=c10
source=s1port0
config=205h
202
TAU0
263
LEFTIN
RIGHTIN
TOTALDLY
SLEWIN
DUMPIN
INA
INB
OUTA
OUTB
DLYVAL
TARGET
RTAU
extaddr=15384
gap=16384
highbrk=81920
length=98304
EXADD8=4096
EXADD9=4098
CN0
264
TARGET
TAUIN
INDXIN
INDXOUT
TAUSLEW
STSLEW
RSTPOINT
MINCOUNT
DUMP
RSTDSBL
TOTALDLY
VARSPD6S
265
SW5
SW2TO1
266
SW6
SW2TO1
AND1
AND2
AND0
AND2
ST1
200
INA
INB
RESETPOINT
SLEW
RESET
OUTA
OUTB
OUTC
OUTD
NDXIN
NDXOUT
PORTS
extaddr=4112
length=1825
238
GT1
GTHALF
OR2
241
OR2
MMV1
MINUS3
MINUS
ONESHOT9
width=3072
211
217
INV1
B_NOT1
240
OR3
242
OR2
MMV2
ONESHOT9
width=3072
212
INT2
INTR1
R
214
ST2
201
INA
INB
RESETPOINT
SLEW
RESET
OUTA
OUTB
OUTC
OUTD
NDXIN
NDXOUT
PORTS
extaddr=10248
length=1825

FIG. 27B

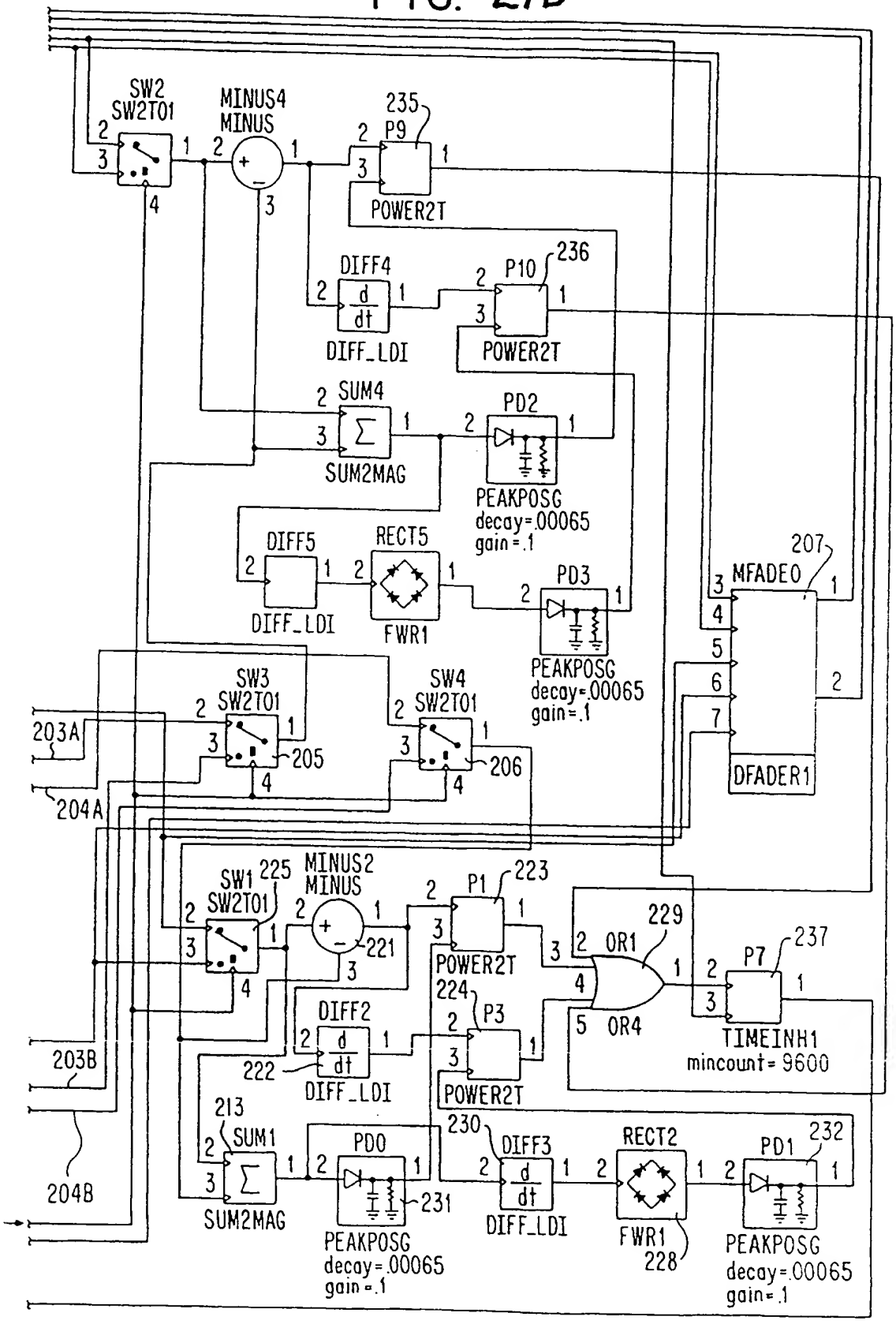

SW2
SW2T01
MINUS4
MINUS
235
P9
POWER2T
DIFF4
d/dt
DIFF_LDI
P10
236
POWER2T
SUM4
SUM2MAG
PD2
PEAKPOSG
decay=.00065
gain=.1
DIFF5
DIFF_LDI
RECT5
FWR1
PD3
PEAKPOSG
decay=.00065
gain=.1
207
MFADE0
DFADER1
SW3
SW2T01
205
SW4
SW2T01
206
203A
204A
SW1
225
SW2T01
MINUS2
MINUS
221
P1
223
POWER2T
229
OR1
OR4
P7
237
TIMEINH1
mincount=9600
DIFF2
d/dt
DIFF_LDI
222
224
P3
POWER2T
203B
204B
213
SUM1
SUM2MAG
PD0
231
PEAKPOSG
decay=.00065
gain=.1
230
DIFF3
d/dt
DIFF_LDI
RECT2
FWR1
228
PD1
232
PEAKPOSG
decay=.00065
gain=.1

FIG. 28

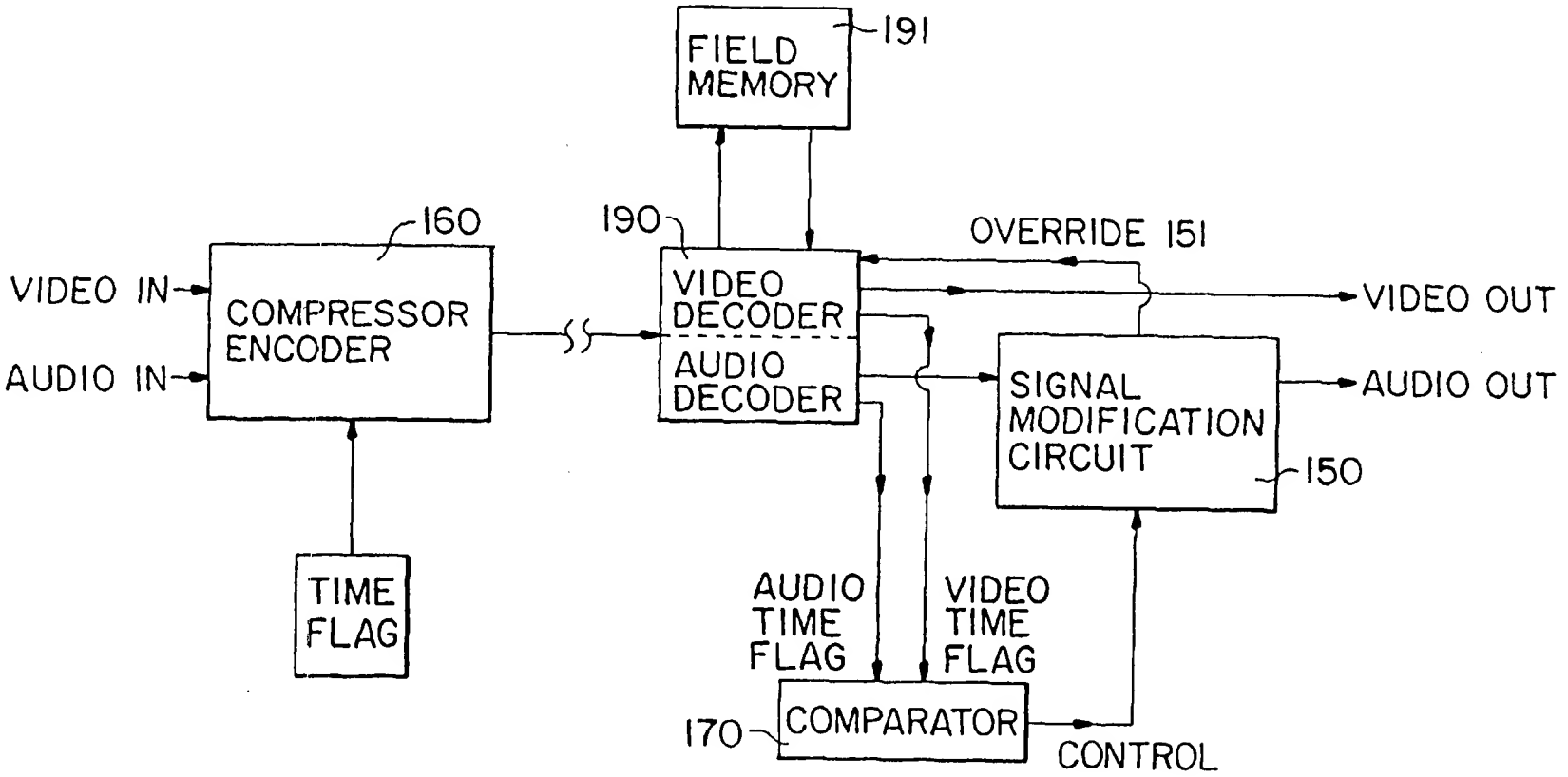

FIELD MEMORY
191
190
160
OVERRIDE 151
VIDEO IN
AUDIO IN
COMPRESSOR ENCODER
VIDEO DECODER
AUDIO DECODER
VIDEO OUT
AUDIO OUT
SIGNAL MODIFICATION CIRCUIT
150
TIME FLAG
AUDIO TIME FLAG
VIDEO TIME FLAG
170
COMPARATOR
CONTROL

FIG. 29

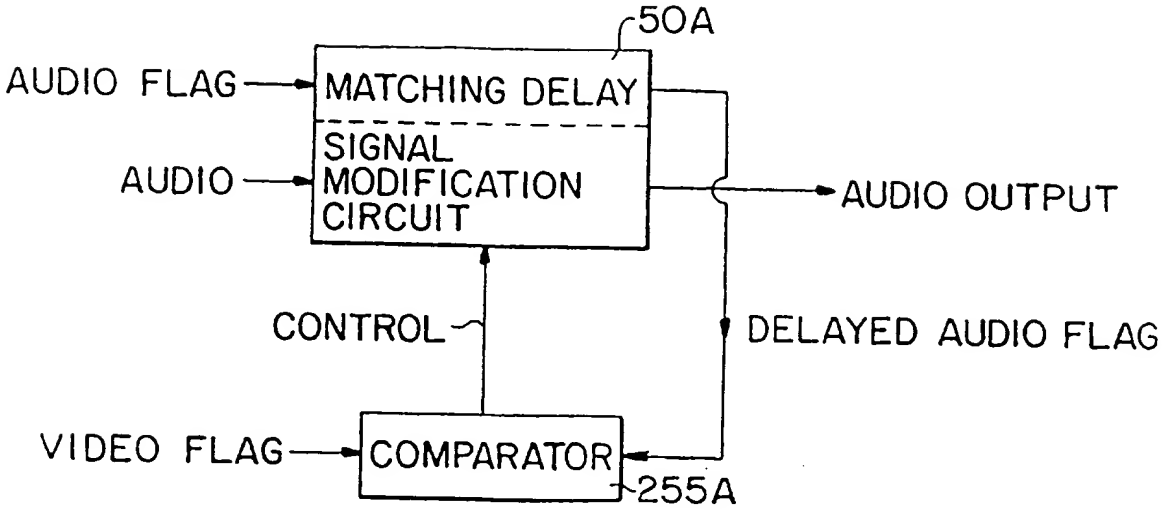

50A
AUDIO FLAG
MATCHING DELAY
AUDIO
SIGNAL MODIFICATION CIRCUIT
AUDIO OUTPUT
CONTROL
DELAYED AUDIO FLAG
VIDEO FLAG
COMPARATOR
255A

FIG. 30

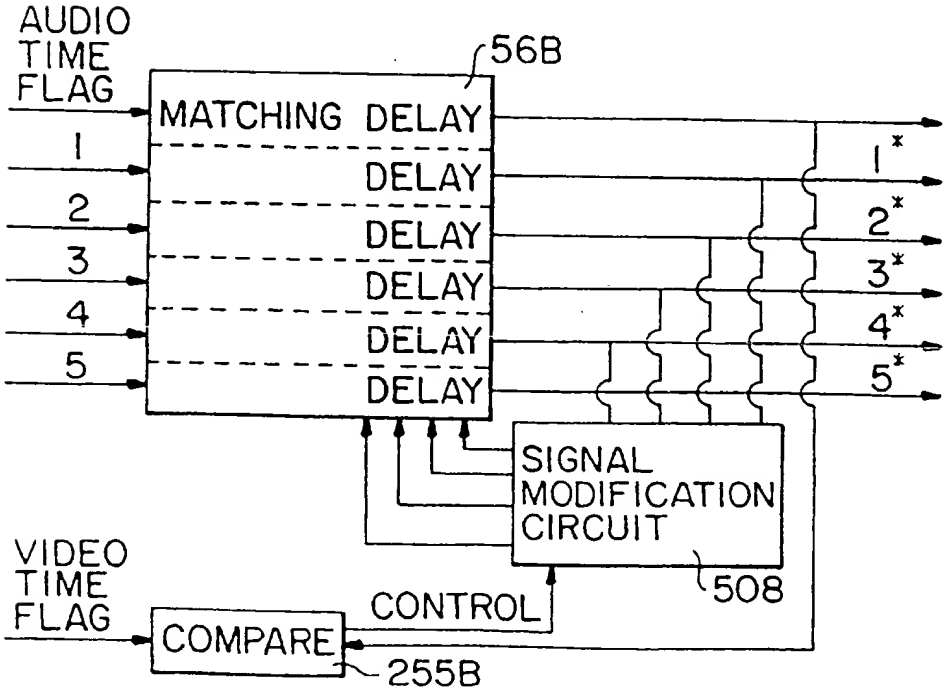

AUDIO TIME FLAG
56B
MATCHING DELAY
1
DELAY
2
DELAY
3
DELAY
4
DELAY
5
DELAY
1*
2*
3*
4*
5*
SIGNAL MODIFICATION CIRCUIT
508
VIDEO TIME FLAG
CONTROL
COMPARE
255B

FIG. 31

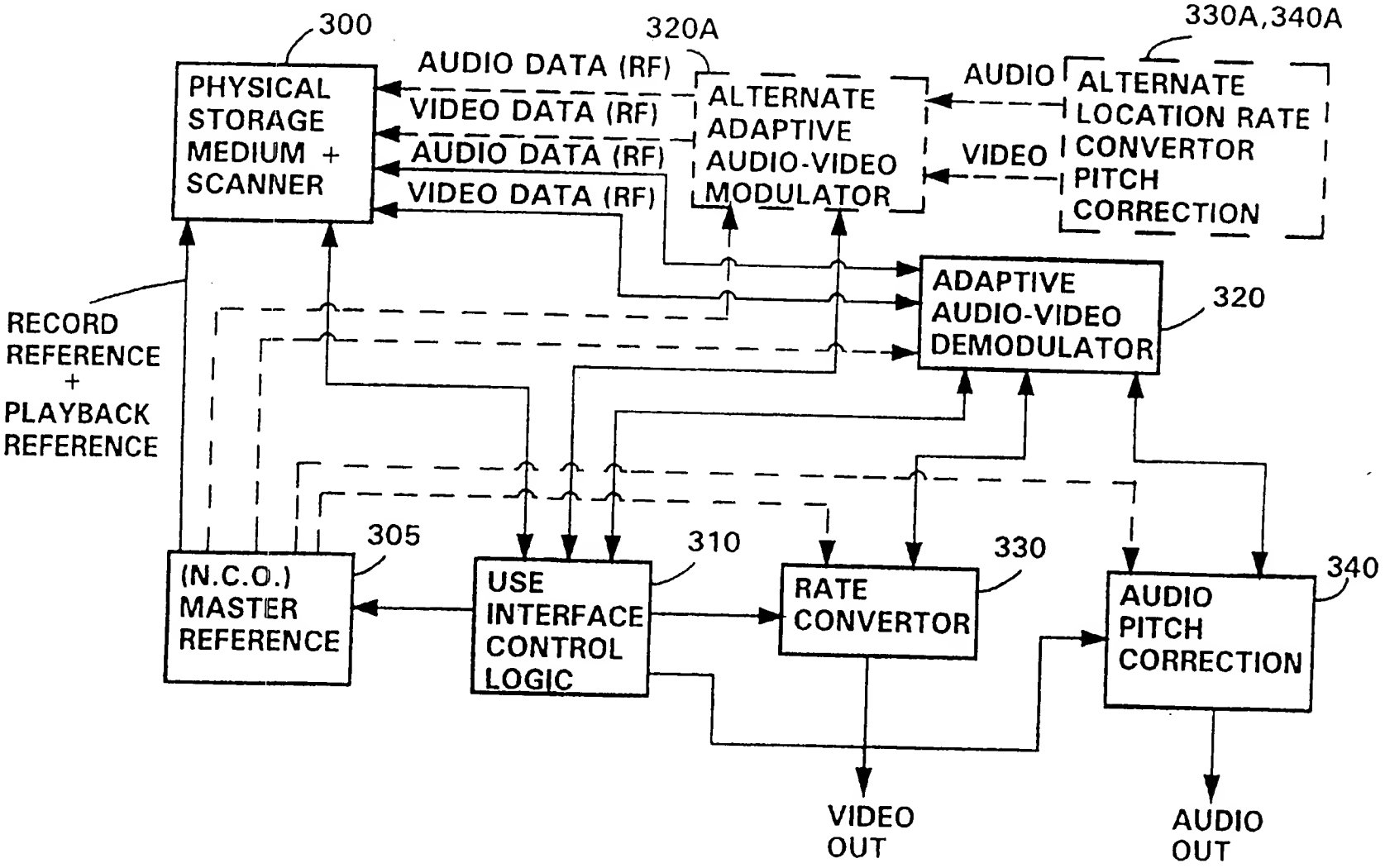

300
320A
330A,340A
PHYSICAL STORAGE MEDIUM + SCANNER
AUDIO DATA (RF)
VIDEO DATA (RF)
AUDIO DATA (RF)
VIDEO DATA (RF)
ALTERNATE ADAPTIVE AUDIO-VIDEO MODULATOR
AUDIO
VIDEO
ALTERNATE LOCATION RATE CONVERTOR PITCH CORRECTION
ADAPTIVE AUDIO-VIDEO DEMODULATOR
320
RECORD REFERENCE + PLAYBACK REFERENCE
305
310
330
340
(N.C.O.) MASTER REFERENCE
USE INTERFACE CONTROL LOGIC
RATE CONVERTOR
AUDIO PITCH CORRECTION
VIDEO OUT
AUDIO OUT

FIG. 32A

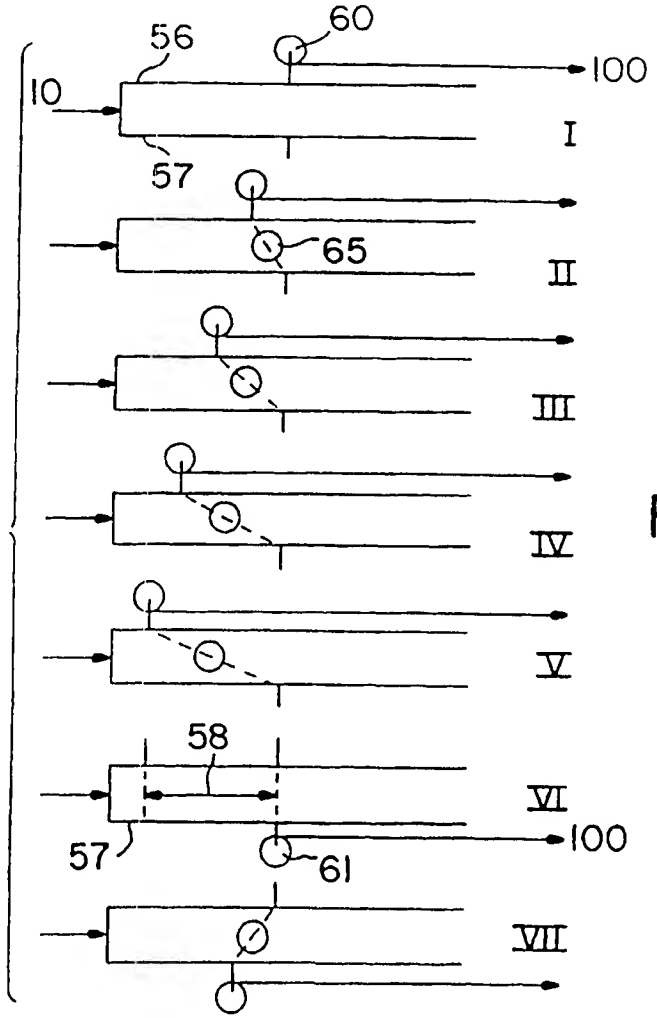


FIG. 32B

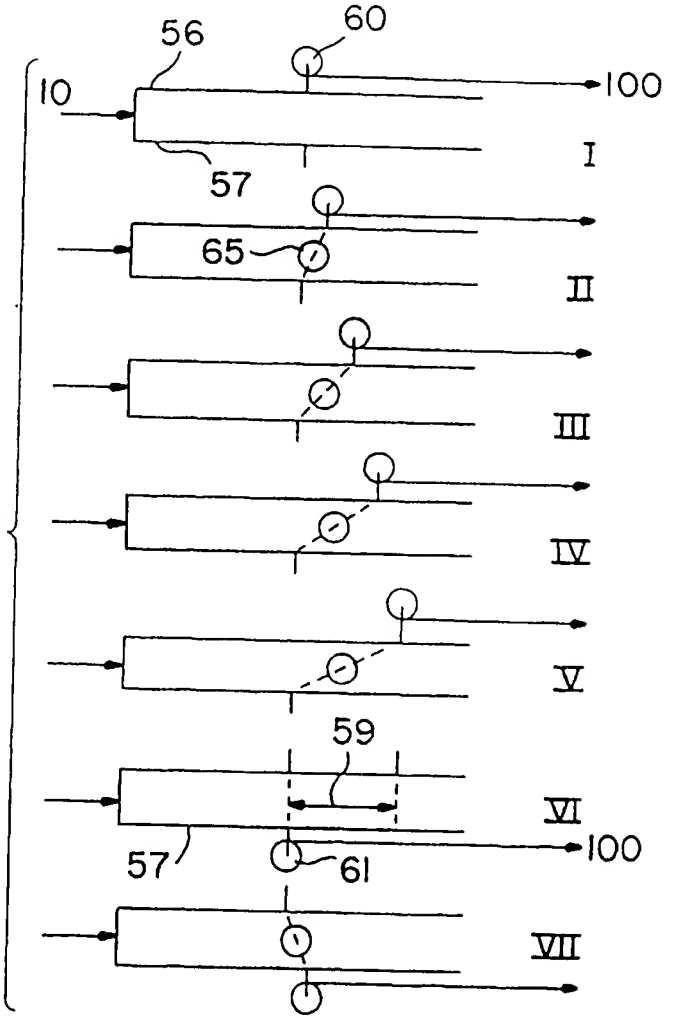
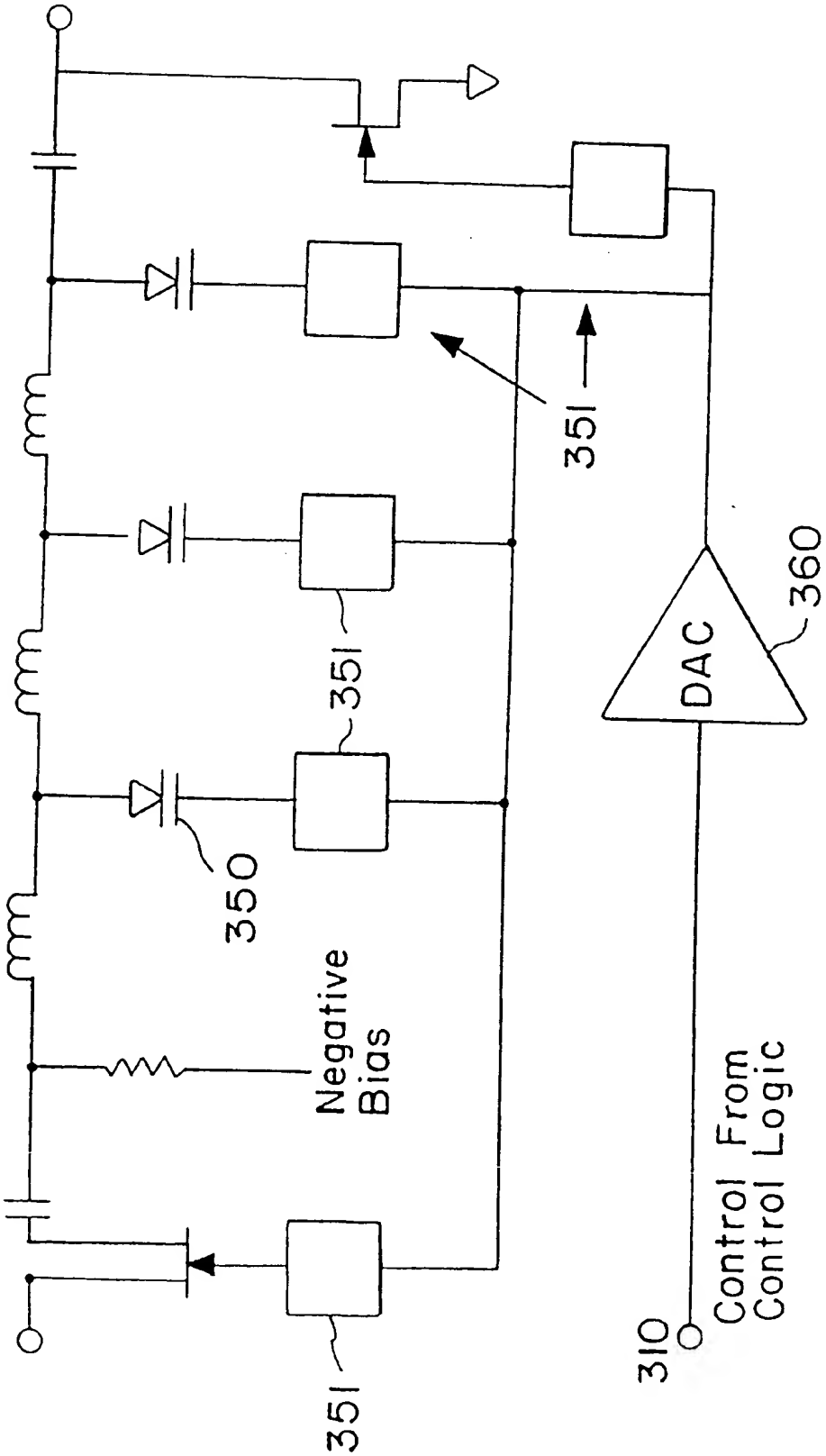


FIG. 33


351
351
351
350
Negative Bias
DAC
360
310
Control From Control Logic